

# DESCRIPTIONS OF TWO NEW SPECIES OF *MIXOSPERCHON* VIETS, A NEWLY RECORDED SUBGENUS OF WATER MITES, FROM CHINA (ACARI, HYDRACHNELLAE, SPERCHONTIDAE)

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**Abstract** Two new species *Sperchon* (*Mixosperchon*) *curvipalpis* Zhang et Jin, sp. nov. and *Sperchon* (*Mixosperchon*) *turfensis* Zhang et Jin, sp. nov. are described in the present paper. This is the first record of the subgenus *Mixosperchon* Viets, 1926 from China.

**Key words** Water mites, Sperchontidae, *Mixosperchon*, new species, China

The genus *Sperchon* Kramer the family, 1877 in the subfamily Sperchontinae Thor, 1900 of Sperchontidae Thor, 1900 was divided into five subgenera *Sperchon* Kramer, 1877; *Mixosperchon* Viets, 1926; *Hispisperchon* Thor, 1901; *Aadiosperchon* Haebech, 1959; and *Palhisperchon* Lundblad, 1941 (Cook, 1974). There were only two subgenera, *Hispisperchon* Thor, 1901 and *Sperchon* Kramer, 1877 previously reported from China (Guo and Jin, 2005; Guo and Jin, 2006; Jin, 1997; Uchida, 1941; Zhang et al., 2007). A newly recorded subgenus *Mixosperchon* Viets, 1926 and two new species are identified from water mite collections in the Institute of Entomology, Guizhou University. All type specimens of the new species are deposited in the Institute of Entomology, Guizhou University, China. The measurements are given in  $\mu\text{m}$ . The abbreviations used in the description are as follows: A1, A2: antennal glandularia 1 and 2; AEG: anterior epimera group (EpI + EpII); EpI - EpIV: Epimeral I-IV; D1-D4: dorsoglandularia 1-4; E1-E4: epimeroglandularia 1-4; L1-L4: lateroglandularia 1-4; O1, O2: ocularia 1 and 2; PEG: posterior epimera group (EpIII + EpIV); P-I - P-V: palpal segments 1-5; V1-V4: venteroglandularia 1-4; I - L-I-I - L-II - L-III - L-IV: the first leg segments I-II-III-IV; II - L-II - L-III - L-IV: the second leg segments I-II-III-IV; III - L-III - L-IV: the third leg segments I-II-III-IV; IV - L-IV - L-V: the fourth leg segments I-II-III-IV.

**Family Sperchontidae** Thor, 1900

**Subfamily Sperchontinae** Thor, 1900

**Genus** *Sperchon* Kramer, 1877

**Subgenus** *Mixosperchon* Viets, 1926 **Newly recorded from China**

*Mixosperchon* Viets, 1926 *Zool. Anz.*, 69: 190

Type species: *Sperchon papillous* Viets, 1926

Median eye absent; no gland opening (E4) present on EpIII; P-III either with a ventral projection or with ventral setae; peg-like setae on P-IV not greatly enlarged and not located close together (Cook, 1974).

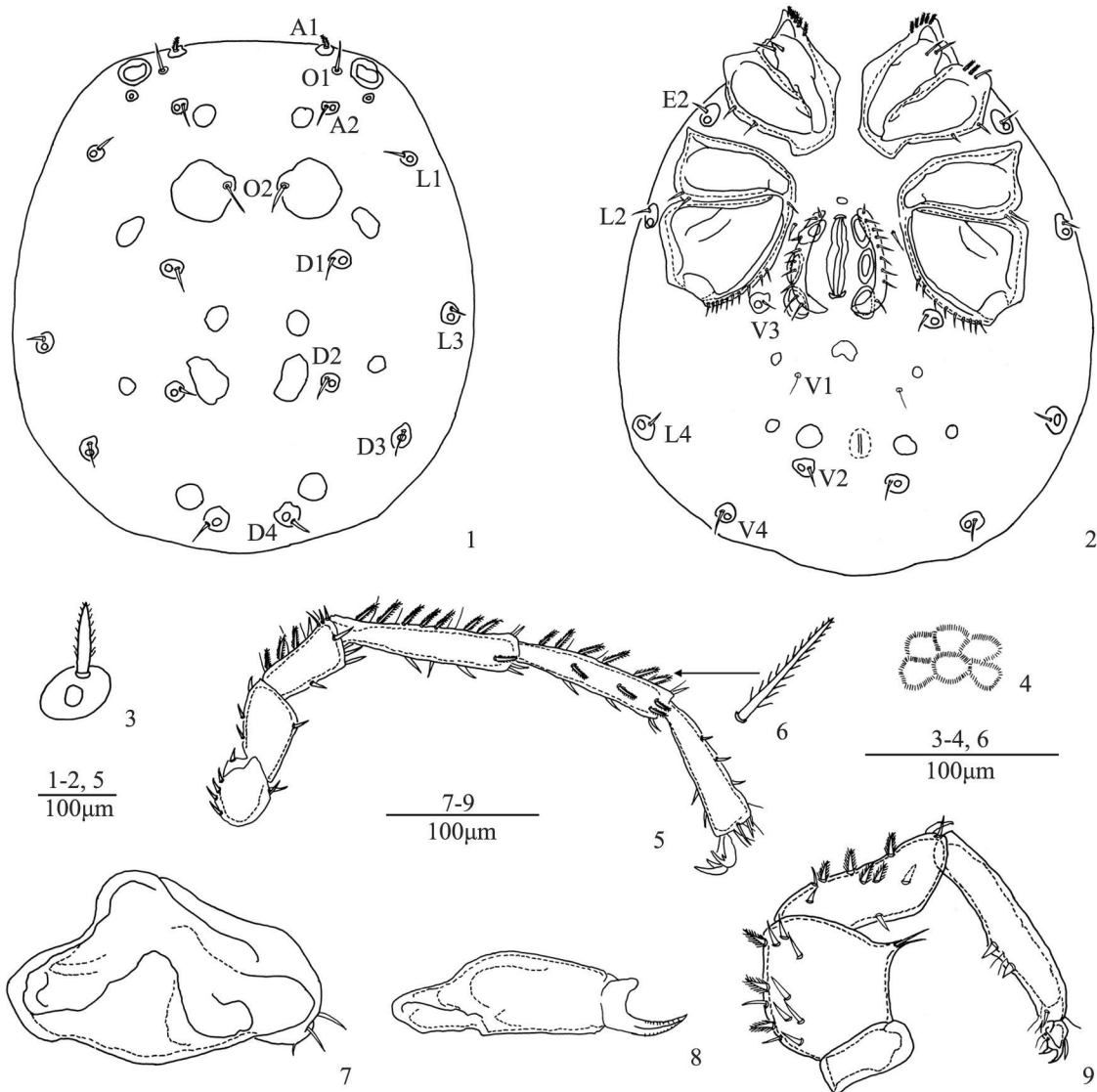
*Sperchon* (*Mixosperchon*) *curvipalpis* Zhang et Jin, sp. nov. (Figs 1-11)

Male Idiosoma oval, 690 in length, 624 in width. Cuticle light yellowish and soft with very fine spinules arranged somewhat in hexagonal pattern (Fig. 4). A1 thick and plumose (Fig. 3), O2 on large platelets. Chitinous platelets and glandular platelets on both dorsum and venter showed in Fig. 1 and Fig. 2. Surface of epimera reticulated. AEG 174 in length, close to each other but not fused and apodeme weakly developed. PEG 228 in length, widely separated. E4 absent from EpIII. Distance between anterior end of EpI and posterior end of EpIV 375. External genital organ lying between PEG; genital valves not covering the genital acetabula; posterior acetabula more or less rounded. Length of genital valves 140, width 144. V1 without accompanying glandularia but with very small sclerites. The venter with a single ventral platelet between genital field and V1, and further three pairs of ventralia besides the platelet and excretory pore. Excretory pore smooth. Dorsal lengths of palpal segments: P-I, 22; P-II, 90; P-III, 118; P-IV, 155; P-V, 27. P-II with a long ventrodistal projection bearing two long setae; about twelve small setae on lateral and dorsal side of P-II, three of them feathered. The dorsal side of P-III incurved; P-III with

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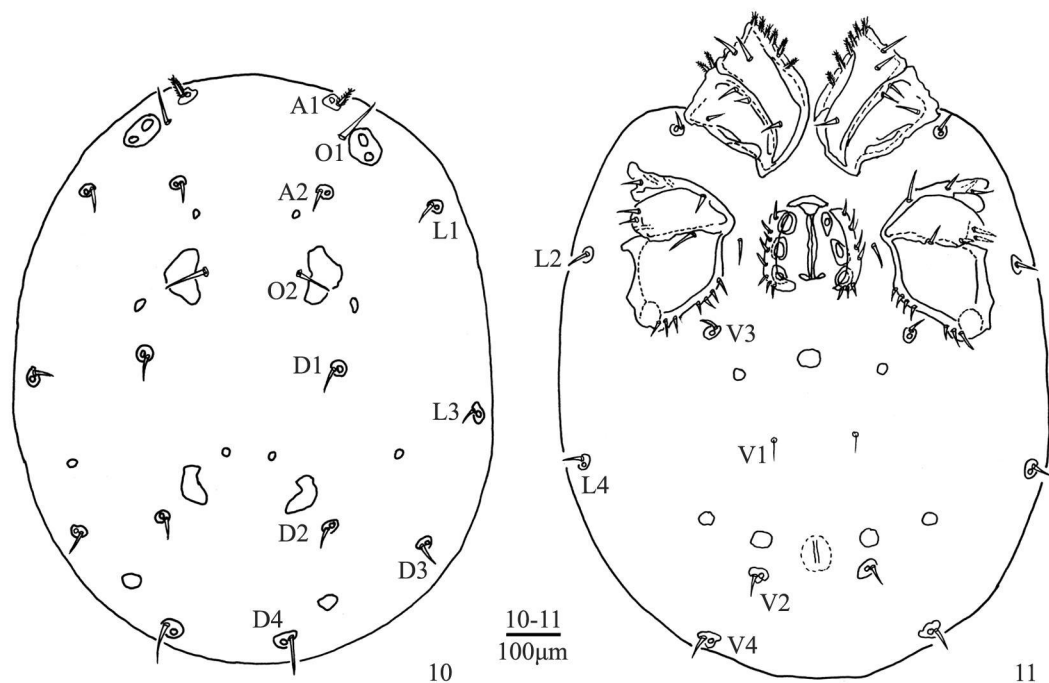
Figs 1-9. *Sperdon (Micosperdon) curvapaphis* Zhang et Jin, sp. nov., male. 1 Dorsal view. 2 Ventral view. 3 A1. 4 Decorations of cuticle. 5. IV-L-1-6. 6 Dorsal seta of IV-L-5. 7 Capitulum. 8 Chelicera. 9 Palp.

eleven heavy setae, one of which more or less ventral in position, others on lateral and dorsal side and five of them feathered. Ventral margin of P-IV with 2 peg-like setae, of which proximal one slightly longer and thicker than distal one, and two small setae among them. Gnathosoma with long rostrum, length 175; chelicera total length 179, basal segment length 116, claw length 63, ratio of basal segment/claw length 1.8. Dorsal lengths of the first leg: I-L-1, 50; I-L-2, 50; I-L-3, 75; I-L-4, 150; I-L-5, 138; I-L-6, 125. Dorsal lengths of the fourth leg: IV-L-1, 112; IV-L-2, 85; IV-L-3, 106; IV-L-4, 211; IV-L-5, 183; IV-L-6, 167. Third-fifth segments of leg IV with longitudinal rows of rather long plumose setae.

**Female.** Similar to male except in morphological characters of the genital field and the size of dorsalia and ventralia. Length of body 1225, width 969. AEG 250 in length, PEG 328 in length. Distance between

anterior end of EpI and posterior end of EpIV 600. Genital field 219 in length, 190 in width. Dorsal lengths of palpal segments: P-I, 31; P-II, 132; P-III, 163; P-IV, 211; P-V, 37. Gnathosoma length 225; chelicera total length 225; basal segment length 150; claw length 75; ratio of basal segment/claw length 2. Dorsal lengths of the first leg: I-L-1, 75; I-L-2, 88; I-L-3, 125; I-L-4, 213; I-L-5, 187; I-L-6, 163. Dorsal lengths of the fourth leg: IV-L-1, 143; IV-L-2, 151; IV-L-3, 161; IV-L-4, 317; IV-L-5, 276; IV-L-6, 232. Third-fifth segments of leg I-IV with long plumose setae in longitudinal rows.

**Remarks.** The new species is similar to *Sperdon (Micosperdon) neotropicus* Cook, 1980 from Mexico (Cook, 1980) especially in the shape of the idiosoma and one heavy setae on the ventral side of the P-III. However, they can be easily distinguished by follows. The incurvated dorsal of P-III is unique in the new



Figs 10-11. *Sperdon (Mixosperdon) curvipalpis* Zhang et Jin, sp. nov., female. 10. Dorsal view, 11. Ventral view.

species differentiated from all other species in this subgenus. A1 is plumose in the new species but smooth in *S. (M.) neotropicus* Cook, 1980.

Holotype male. Wild-Lotus Valley (35° 32' N, 106° 24' E; alt. 1826 m), Jiuyuan City, Ningxia Hui Autonomous Region, 26 July 2009, leg. YI Tian-Ci. Paratypes: two females, the same data as the holotype. The holotype and one female were dissected and slide mounted.

**Etymology.** The species is named according to the incurvated dorsal side of P-III.

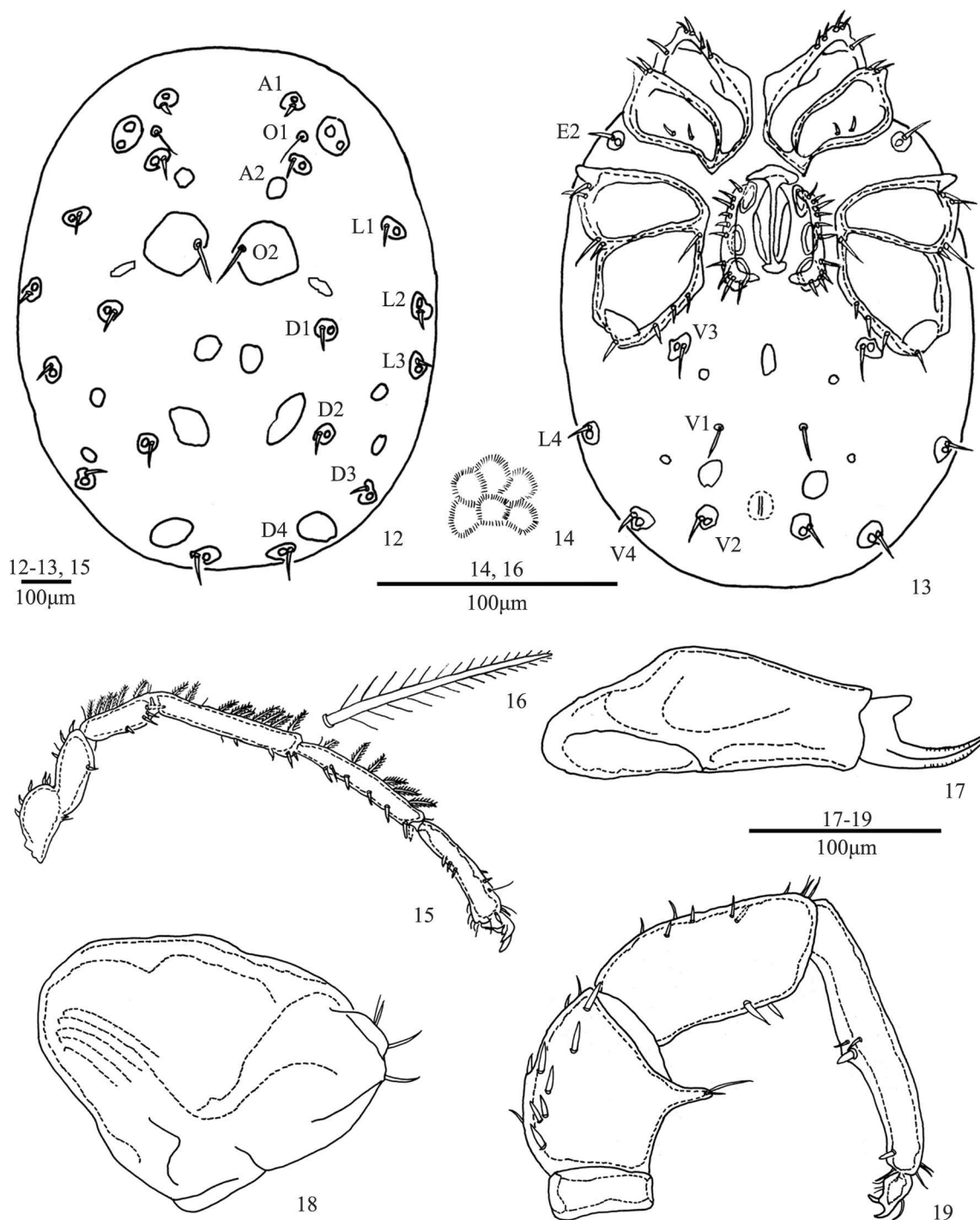
*Sperdon (Mixosperdon) turfanensis* Zhang et Jin, sp. nov. (Figs 12-19)

Female. Idiosoma oval, 983 in length, 713 in width. Cuticle light yellowish, soft and covered with very fine spinules arranged somewhat in hexagonal pattern (Fig. 14). A1 short and smooth, O2 on large platelets. Chitinous platelets and glandular platelets on both dorsum and venter showed in Fig. 12 and Fig. 13. Surface of epimera reticulated. AEG 249 in length, close but not fused to each other, and apodeme well developed. PEG 315 in length, widely separated. E4 absent from the EpIII. Distance between anterior end of EpI and posterior end of EpIV 575. Genital field 204 in length, 186 in width, typically with three pairs of genital acetabula. V1 without accompanying glandularia but with very small sclerites. The venter with a single oblong platelet posterior to genital field and between V3, a pair of small rounded ventralia posterior to V3, and two pairs of ventralia between V1 and V2. Excretory pore smooth. Dorsal lengths of palpal segments: P-I, 26;

P-II, 151; P-III, 175; P-IV, 221; P-V, 40. P-II with a long ventrodistal projection bearing one long and one small setae, about eleven small setae on lateral and dorsal side of P-II, none of them feathered. P-III with twelve none-feathered heavy setae, two of which more or less ventral in position, others on lateral and dorsal side of P-III. P-IV with two peg-like setae on the ventral side, one of which almost at ventral middle of the segment and with two common hypobasal setae, another one near to ventral distal end of the segment. Gnathosoma with long rostrum, length 220; chelicera total length 225; basal segment length 150; claw length 75; ratio basal segment/claw length 2. Dorsal lengths of the first leg: I-L-1, 75; I-L-2, 88; I-L-3, 113; I-L-4, 213; I-L-5, 200; I-L-6, 175. Dorsal lengths of the fourth leg: IV-L-1, 157; IV-L-2, 147; IV-L-3, 176; IV-L-4, 340; IV-L-5, 334; IV-L-6, 256. Third-fifth segments of leg I-IV with rather long plumose setae in longitudinal rows.

**Remarks.** The new species closely resembles *Sperdon (Mixosperdon) mexicanus* Cook, 1980 from Mexico (Cook, 1980), but can be distinguished from the latter by the following characters: the new species with two heavy setae, while *S. (M.) mexicanus* with only one heavy setae on the ventral side of P-III. The postgenital platelet in the new species oblong while it more or less rounded in the latter. The setae on the dorsal of third-fifth segments of leg IV are pectinate in the new species but not in the latter.

Holotype female. Sanbao Village, Turfan City, Xinjiang Uygur Autonomous Region, 19 Aug. 1997.



Figs 12-19. *Sperchon (Mixosperchon) turfanensis* Zhang et Jin, sp. nov., female 12 Dorsal view. 13 Ventral view. 14 Decorations of cuticle 15 IV-1-6 16 Dorsal seta of IV-5 17. Chelicera 18 Capitulum 19. Palp

leg JN Dao-Chao The holotype was dissected and slide mounted

**Etymology.** The species is named after the Turfan City (Xinjiang Uygur Autonomous Region), where the type specimen was collected

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# 中国刺触螨科一新纪录亚属及两新种记述 (蜱螨亚纲, 水螨群, 刺触螨科)

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**摘 要** 记述了采自宁夏回族自治区泾源县野荷谷和新疆维吾尔自治区吐鲁番市三堡乡的中国刺触螨科一新纪录亚属: 杂刺触螨亚属 *Mixosperdon* Vietz, 1926 及两新种: 凹须刺触螨 *Sperdon (Mixosperdon) curvipalpis* Zhang et Jin, sp. nov. 和吐鲁番刺触螨 *Sperdon (Mixosperdon) turfanensis* Zhang et Jin, sp. nov. 模式标本保存于贵州大学昆虫研究所。

**凹须刺触螨, 新种** *Sperdon (Mixosperdon) curvipalpis* Zhang et Jin, sp. nov. (图 1~11)

新种与分布于墨西哥的新热带刺触螨 *Sperdon (Mixosperdon) neotropicus* Cook, 1980 近似, 区别在于: 新种 A1 为短小, 呈枝状, 而 *S. (M.) neotropicus* 的 A1 光滑; 新种的 P-III 背面凹陷, 此特征显著区别于本亚属的其它物种。

正模 ♂, 副模 2♀, 宁夏回族自治区泾源县野荷谷, 2009-07-26 乙天慈采。

**关键词** 水螨群, 刺触螨科, 杂刺触螨亚属, 新种.

**中图分类号** Q959.226

词源: 以 P-III 背面凹陷特征命名。

吐鲁番刺触螨, 新种 *Sperdon (Mixosperdon) turfanensis* Zhang et Jin, sp. nov. (图 12~19)

新种与分布于墨西哥的墨西哥刺触螨 *Sperdon (Mixosperdon) mexicanus* Cook, 1980 近似, 区别在于: 新种 P-III 腹面生有 2 根粗刚毛, 而 *S. (M.) mexicanus* 的 P-III 腹面生 1 根粗刚毛; 新种生殖域后方、V3 之间的骨片为长条形, 而其在 *S. (M.) mexicanus* Cook, 1980 为圆形; 新种足上刚毛羽状, 而 *S. (M.) mexicanus* Cook, 1980 足上刚毛光滑, 非羽状。

正模 ♀, 新疆维吾尔自治区吐鲁番市三堡乡, 1997-08-19 金道超采。

种名词源: 以模式产地命名

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